



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Northwest Region
7600 Sand Point Way N.E., Bldg. 1
Seattle, WA 98115

Refer to:

OSB2001-0065-FEC

OSB2001-0075-FEC

April 30, 2001

Ms. Bonnie Wood
Forest Supervisor
Malheur National Forest
P.O. Box 909
John Day, Oregon 97845

Re: Endangered Species Act Section 7 Formal Consultation and Magnuson-Stevens Act
Essential Fish Habitat Consultation on the Effects of Malheur National Forest, Blue
Mountain Ranger District, Livestock Grazing Allotments for FY 2001: Dixie, Mt.
Vernon-John Day-Beech Creek, and Murderers Creek, Blue Mountain, Long Creek, and
Upper Middle Fork

Dear Ms. Wood:

Enclosed is a biological opinion (Opinion) prepared by the National Marine Fisheries Service (NMFS) pursuant to the Section 7 of the Endangered Species Act (ESA) on the effects of the Dixie, Mt. Vernon-John Day-Beech Creek, Murderers Creek, Blue Mountain, Long Creek, and Upper Middle Fork livestock grazing allotments administered by the Malheur National Forest in the John Day River Basin, Oregon. These actions were proposed by the MNF in a letter and biological assessment dated March 5, 2001 and March 8, 2001. The NMFS concludes in this Opinion that the proposed action is not likely to jeopardize Middle Columbia River (MCR) steelhead or adversely modify MCR steelhead designated critical habitat. As required by Section 7 of the ESA, NMFS included reasonable and prudent measures with non-discretionary terms and conditions that NMFS believes are reasonable and appropriate to minimize the impact of incidental take associated with this action.

This Opinion also serves as consultation on Essential Fish Habitat pursuant to section 305(b) of the Magnuson-Stevens Fishery Conservation Management Act and implementing regulations at 50 CFR Part 600.



Please direct any questions regarding this consultation to Scott Leonard at (208) 378-5708 or Scott Hoefer at (503) 231-6938 of my staff in the Oregon State Branch Office.

Sincerely,

A handwritten signature in black ink, reading "Michael R. Crouse". The signature is written in a cursive style with a large, stylized "M" and "C".

Donna Darm
Acting Regional Administrator

cc: Al Mauer, U.S. Fish and Wildlife Service
Tim Unterwegner, Oregon Department of Fish and Wildlife
John Morris, Bureau of Land Management

Endangered Species Act - Section 7 Consultation
and
Magnuson - Stevens Act
Essential Fish Habitat Consultation

MALHEUR NATIONAL FOREST
BLUE MOUNTAIN RANGER DISTRICT

Livestock Grazing Allotments
For FY 2001

Dixie, Mt. Vernon-John Day-Beech Creek,
Murderers Creek, Blue Mountain,
Long Creek, and Upper Middle Fork

Agency: U.S. Forest Service, Malheur National Forest

Consultation

Conducted By: National Marine Fisheries Service
Northwest Region

Date Issued: April 30, 2001

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OSB2001-0075-FEC

TABLE OF CONTENTS

1. ENDANGERED SPECIES ACT	<u>1</u>
1.1 Background	<u>1</u>
1.2 Proposed Actions	<u>1</u>
1.3 Allotment Descriptions	<u>4</u>
1.3.1 Dixie Allotment	<u>4</u>
1.3.2 Mt. Vernon-John Day-Beech Creek Allotment	<u>4</u>
1.3.3 Murderers Creek Allotment	<u>5</u>
1.3.4 Blue Mountain Allotment	<u>6</u>
1.3.5 Long Creek Allotment	<u>7</u>
1.3.6 Upper Middle Fork Allotment	<u>7</u>
1.4 Allotment Monitoring	<u>8</u>
1.5 Biological Information and Critical Habitat	<u>8</u>
1.6 Evaluating Proposed Actions	<u>9</u>
1.6.1 Biological Requirements	<u>10</u>
1.6.2 Environmental Baseline	<u>10</u>
1.6.2.1 Allotment Specific Conditions	<u>12</u>
1.6.2.1.1 Blue Mountain Allotment	<u>12</u>
1.6.2.1.2 Long Creek Allotment	<u>13</u>
1.6.2.1.3 Upper Middle Fork Allotment	<u>13</u>
1.6.2.1.4 Dixie Allotment	<u>14</u>
1.6.2.1.5 Mount Vernon-John Day-Beech Creek Allotment	<u>14</u>
1.6.2.1.6 Murderers Creek Allotment	<u>15</u>
1.7 Analysis of Effects	<u>16</u>
1.7.1 Effects of Proposed Actions	<u>16</u>
1.7.1.1 Direct Effects	<u>17</u>
1.7.1.2 Indirect Effects	<u>17</u>
1.7.1.3 Allotment Specific Effects	<u>20</u>
1.7.2 Cumulative Effects	<u>21</u>
1.8 Conclusion	<u>22</u>
1.9 Conservation Recommendations	<u>22</u>
1.10 Reinitiation of Consultation	<u>23</u>
2. INCIDENTAL TAKE STATEMENT	<u>23</u>
2.1 Amount or Extent of Take	<u>23</u>
2.2 Effect of the Take	<u>24</u>
2.3 Reasonable and Prudent Measures	<u>24</u>
2.4 Terms and Conditions	<u>24</u>
3. ESSENTIAL FISH HABITAT	<u>28</u>
3.1 Background	<u>28</u>
3.2 Magnuson-Stevens Fishery Conservation and Management Act	<u>28</u>

3.3	Identification of EFH	29
3.4	Proposed Actions	29
3.5	Effects of Proposed Action	30
3.6	Conclusion	30
3.7	EFH Conservation Recommendations	30
3.8	Statutory Response Requirement	30
3.9	Consultation Renewal	30
4.	LITERATURE CITED	31

LIST OF TABLES

Table 1.	Upper John Day River Subbasin Livestock Grazing Allotments on the Malheur National Forest, 2001.	2
Table 2.	Middle Fork John Day River Subbasin Livestock Grazing Allotments on the Malheur National Forest, 2001.	3

1. ENDANGERED SPECIES ACT

1.1 Background

The National Marine Fisheries Service (NMFS) received two letters from the Malheur National Forest (MNF), dated March 5, 2001 and March 8, 2001, requesting consultation regarding the potential effects of proposed livestock grazing activities on MNF-administered allotments in the Upper John Day River (UJDR) and Middle Fork John Day River (MFJD) subbasins on Middle Columbia River (MCR) steelhead and their designated critical habitat. The accompanying biological assessments (BA) described proposed livestock grazing actions for FY 2001 on the Blue Mountain Ranger District (BMRD) and Emigrant Creek Ranger District (ECRD), the environmental baseline, and the potential effects of those actions on MCR steelhead and their designated critical habitat in the UJDR and MFJD subbasins within the MNF.

The MCR steelhead (*Onchorynchus mykiss*) was listed as threatened under the Endangered Species Act (ESA) by NMFS on March 25, 1999 (64 FR 14517). The NMFS designated critical habitat for the MCR steelhead on February 16, 2000 (65 FR 7764) and applied protective regulations to MCR steelhead under section 4(d) of the ESA on July 10, 2000 (65 FR 42422). All streams and their adjacent riparian areas in the JDR basin downstream from longstanding, naturally impassable barriers (i.e., natural waterfalls in existence for at least several hundred years) are designated as critical habitat for MCR steelhead. The proposed actions addressed in this Biological Opinion (Opinion) are within designated critical habitat for MCR steelhead in the UJDR and MFJD sub-basins.

The objective of this Opinion is to determine whether the subject FY 2001 livestock grazing actions are likely to jeopardize the continued existence of MCR steelhead or result in the destruction or adverse modification of designated critical habitat for MCR steelhead.

1.2 Proposed Actions

The BA submitted to NMFS describes proposed livestock grazing activities for the year 2001 on 21 livestock grazing allotments on the BMRD and 3 livestock grazing allotments on the ECRD of the MNF in the UJDR subbasin. It also describes proposed livestock grazing activities for the year 2001 for 13 allotments on the BMRD in the MFJD subbasin. In the BA, the MNF determined that activities on 27 of the 37 livestock grazing allotments for the 2001 grazing season are “may affect, but not likely to adversely affect” (NLAA) actions regarding MCR steelhead or designated critical habitat. The NMFS concurred in two separate letters dated April 20, 2001 (OSB2001-0065-IEC) and the other pending (OSB2001-0075-IEC). The Herberger, McCullough, Austin, and Sullens allotments on the BMRD will be rested in 2001, and were, therefore, determined to have “no effect” on MCR steelhead. The remaining six (Dixie, Mt. Vernon/John Day/Beech Creek, Murderers Creek, Blue Mountain, Long Creek, and Upper Middle Fork) range allotments on the BMRD (for the 2001 grazing season) were determined by the MNF to be “may affect, and likely to adversely affect” (LAA) the MCR steelhead or

designated critical habitat. Those six LAA actions, which are summarized in Tables 1 and 2 and individually described below, are the subject of this Opinion.

Table 1. Upper John Day River Subbasin Livestock Grazing Allotments on the Malheur National Forest, 2001.

<u>ALLOTMENT/</u> Pasture	Approx. River Mile of Entry to JDR or SFJDR	Cow/calf Pairs	Anticipated Dates of Use*	Total Acres of Allotment Administered MNF	Associated Streams with MCR Steelhead Spawning Habitat on MNF
Upper John Day River					
<u>DIXIE</u> Bear Creek	260	300	6/1-8/1	<u>18,180</u>	Bear Creek, Hall Creek
Standard Creek (tributary to Dixie Creek)	262	300	8/2-10/15		Standard Creek and tributaries; Dixie Creek and tributaries
<u>MV-JD-BC</u> Belshaw	233	346	6/11-7/20	<u>49,583</u>	Birch Creek
Bear Creek	239	346	7/21-10/10		Bear Creek (trib. to Beech Creek)
Ennis	239	150	6/11-7/19		Clear Creek, East Fork Beech Creek
McClellan	239	150	7/20-10/25		McClellan Creek (trib. to E.Fk. Beech Creek)
“On”	239	35	5/15		Bear, McClellan, Beech, East Fork Beech
South Fork John Day River					
<u>MURDERERS CREEK</u> <i>NORTH HERD</i> Oregon Mine	16	275	7/20-8/21	<u>52,600</u>	Murderers Creek
Dan’s Creek		275	8/22-9/10		No steelhead habitat.
Martin Corral	16	275	9/11-10/30		Murderers Creek
Red Rocks		275	9/11-10/30		Duncan Creek (rearing only)
<i>MIDDLE HERD</i> Timber Mountain	16	250	6/1-6/30		South Fork Murderers Creek and Crazy Creek tributary
Maggot Spg.		250	7/1-7/5		No steelhead habitat

<u>ALLOTMENT/</u> Pasture	Approx. River Mile of Entry to JDR or SFJDR	Cow/calf Pairs	Anticipated Dates of Use*	Total Acres of Allotment Administered MNF	Associated Streams with MCR Steelhead Spawning Habitat on MNF
Blue Ridge	16	250	7/6-8/1		South Fork Murderers Creek
Lucera		250	8/2-8/16		No fish bearing streams
Horse Mountain		250	8/17-9/1		No steelhead habitat
JYM	16	250	9/1-9/10		South Fork Murderers Creek
<i>SOUTH HERD</i> Frenchy Butte	28	375	7/8-8/25		Deer Creek
Deer Creek	28	375	8/26-10/5		Deer Creek, Corral Creek
JYM	16	375	10/6-10/14		South Fork Murderers Creek

Table 2. Middle Fork John Day River Subbasin Livestock Grazing Allotments on the Malheur National Forest, 2001.

<u>ALLOTMENT/</u> Pasture	Cow/calf Pairs	Anticipated Dates of Use	Total Acres of Allotment Administered by MNF	Associated Streams with MCR Steelhead Spawning Habitat on MNF
Middle Fork John Day River				
<u>BLUE MOUNTAIN</u> West Summit	175	6/19-7/4	<u>22,447</u>	Middle Fork John Day River, Clear Creek
Crawford Creek	175	7/5-8/19		Crawford Creek
Idaho Creek	175	8/20-9/15		Idaho Creek
East Summit	175	9/16-9/30		Summit Creek, Squaw Creek
<u>LONG CREEK</u> Lick Creek	967	6/1-7/15	<u>49,628</u>	Camp Creek, Cougar Creek, Trail Creek, Lick Creek, West Fork Lick Creek
Hiyu	967	7/16-9/1		Coxie Creek, Deep Creek,
Flat Creek	967	9/1-10/15		Camp Creek, Cottonwood Creek, Long Creek
<u>UPPER MIDDLE FORK</u> Caribou	100	6/15-10/1	<u>54,922</u>	Little Boulder Creek, Windless Creek, Caribou Creek, Granite Boulder Creek

<u>ALLOTMENT/ Pasture</u>	Cow/calf Pairs	Anticipated Dates of Use	Total Acres of Allotment Administered by MNF	Associated Streams with MCR Steelhead Spawning Habitat on MNF
Butte	190	9/2-10/31		Butte Creek, Little Butte Creek, Ragged Creek
Lower Vinegar	100	if needed		Vincent Creek, Vinegar Creek

* Harassment of spawning adult MCR steelhead and trampling of MCR steelhead redds in streams where spawning habitat is available and which are accessible to livestock on these allotments may occur any time between March 15 and July 15.

1.3 Allotment Descriptions

1.3.1 Dixie Allotment

The Dixie Allotment is located in the Prairie City 5th field watershed. The allotment contains 18,180 acres of MNF-administered land. The BLM administers 2,548 acres on this allotment and there are 5,994 acres of private land. The BLM grazing actions on the Dixie Allotment were addressed in an Opinion issued by NMFS on January 17, 2001. According to the BA submitted by the MNF, there are approximately 2 miles of Dixie Creek, 2 miles of Standard Creek, and 1.5 miles of Hall Creek which provide MCR steelhead spawning habitat on this allotment. There are two pasture units on the MNF portion of the Dixie Allotment, both of which contain MCR steelhead habitat. In 2001, the Bear Creek pasture, which contains portions of Bear Creek and Hall Creek, would be grazed from June 1 to August 1. The Standard Creek pasture which contains portions of Standard and Dixie Creeks will be grazed from August 2 to October 15 (Table 1). Bear Creek enters the JDR from the north near RM 258.5 and Hall Creek is a tributary to Bear Creek. Dixie Creek enters the JDR from the north near RM 262 at Prairie City, Oregon, and Standard Creek is a tributary to Dixie Creek. According to the BA, MNF Fishery Biologist Perry Edwards, completed MCR steelhead spawning habitat surveys on Dixie (7/5/2000), Hall (7/12/2000), Bear (7/12/2000), and Standard Creeks (7/26/2000) to determine where steelhead spawning habitat exists. Findings of those surveys and other information on habitat conditions are summarized under Environmental Baseline (Section 4.2), below. The permittees provide a rider to herd livestock, distribute salt for utilization by livestock in a manner to provide for resource protection, maintain fences and water developments, monitor grazing use, and report potential concerns to the MNF. Monitoring efforts on this allotment will focus on riparian areas of Bear, Dixie, and Standard Creeks.

1.3.2 Mt. Vernon-John Day-Beech Creek Allotment

The Mt. Vernon-John Day-Beech Creek (MV-JD-BC) Allotment is located in the Mt. Vernon and Beech Creek 5th field watersheds and contains 49,583 acres of MNF-administered land.

There are seven pasture units on MNF-administered land in this allotment. The Cohoe and Belshaw Meadows pastures do not contain steelhead habitat, but all other pasture units (Belshaw, Bear Creek, Ennis, McClellan, and Beech Creek) do. In 2001, livestock turnout will occur prior to July 15 on the Ennis, Belshaw, and Beech Creek pastures. The Beech Creek “On/Off” pasture is used periodically by small groups of cattle (35 cow/calf pairs) when moving to other pasture units. In the Ennis Pasture, MCR steelhead spawning habitat is present in Clear Creek and the East Fork of Beech Creek. In the Belshaw Pasture, steelhead spawning habitat is present in Belshaw and Birch Creeks. A fenced riparian pasture along Belshaw Creek will not be grazed until after July 15. In the Beech Creek unit, Bear, McClellan, Beech, and East Fork Beech all contain steelhead habitat. According to the BA, MNF Fishery Biologist Perry Edwards, completed MCR steelhead spawning habitat surveys during July 2000, on McClellan, Birch, Belshaw, and Clear Creeks to determine where steelhead spawning habitat exists. Findings of those surveys are summarized under Environmental Baseline (Section 4.2), below. Belshaw Creek enters the JDR from the north near RM 228, Birch Creek enters from the north near RM 233, and Beech Creek from the north near RM 239 at Mt. Vernon, Oregon. Bear Creek and the East Fork of Beech Creek are tributaries to Beech Creek and Clear Creek and McClellan Creek are tributaries to the East Fork of Beech Creek.

In the Ennis pasture, riding, salting, and use of upland water sources will be used to minimize cattle use along Clear and East Fork Beech Creeks. In addition, much of Clear Creek is inaccessible to livestock because of steep topography.

In the Belshaw pasture, a fence along Belshaw Creek excludes cattle from most of that stream. Steep topography and dense vegetation limit access by livestock to Birch Creek in the Belshaw pasture.

The permittees provide a rider to herd livestock, distribute salt for utilization by livestock in a manner to provide for resource protection, maintain fences and water developments, monitor grazing use, and report potential concerns to the MNF. Riparian areas associated with McClellan, Nipple, Clear, Hog, Johnson, Thompson, East Fork Beech, Laycock, Bear, Belshaw, Wildcat, and Cummings Creek will be considered as key areas for monitoring in this allotment.

1.3.3 Murderers Creek Allotment

The Murderers Creek Allotment is located in the Murderers Creek and Deer Creek 5th field watersheds and contains 52,600 acres of suitable grazing land. There are ten pasture units on MNF-administered lands in this allotment; six of those pastures contain steelhead spawning and rearing habitat. Murderers Creek and Deer Creek are tributaries to the SFJDR near RM 16 and RM 28 downstream from Izee Falls. The allotment is grazed by three separate herds of cattle (North, Middle, and South). Murderers Creek and tributaries drain pastures used by the North Herd and most of the pastures used by the Middle Herd. Murderers Creek, the S.Fk. Murderers Creek, and Crazy Creek provide spawning and rearing habitat for MCR steelhead, while several smaller tributaries provide rearing habitat. Deer Creek and tributaries drain pastures used by the

South Herd. Deer Creek and Corral Creek provide spawning and rearing habitat for MCR steelhead while several tributaries provide rearing habitat.

Cattle in the North Herd will be turned out in the Aldrich Ridge/Cabin-Todd pasture on May 25, 2001. Todd and Cabin Creeks in this pasture provide some rearing habitat for MCR steelhead, but are too steep to provide spawning habitat. Cattle will not be turned out on the Oregon Mine, Dans Creek, and Martin Corrals pastures until after July 15. An electric fence will be installed around the riparian meadow on Thorn Creek (Oregon Mine Pasture) along Road 2170, as a precaution to keep out stragglers. Cattle will not be allowed to concentrate upstream of the Oregon Mine Campground along Murderers Creek. Monitoring will focus on riparian areas along Murderers Creek, Thorn Creek, and Duncan Creek.

The Middle Herd will be turned out in the Timber Mountain pasture on June 1, 2001 but not allowed to trail down Crazy Creek to the South Fork of Murderers Creek. The South Fork of Murderers Creek will not be grazed prior to July 15, and will be checked twice per week prior to that time. Upland placement of salt and frequent herding will be used to keep cattle out of riparian areas. Salt must be placed at least 0.25 mile away from streams, springs or wetlands and away from roads. According to the BA, MNF personnel will complete a survey on the lower mile of Crazy Creek and on the South Fork of Murderers Creek in the Timber Mountain pasture to identify steelhead spawning habitat in those streams. Monitoring will focus on riparian areas along the South Fork of Murderers Creek and Crazy Creek.

The South Herd will be turned out in the Frenchy Butte pasture on July 8, but not allowed on Deer Creek before July 15. MNF range and fisheries personnel will monitor steelhead spawning areas to ensure that no cattle enter these areas until after July 15. An electric fence will be placed around the stringer meadow along Vester Creek (a Deer Creek tributary). Monitoring will focus on riparian areas along Deer, lower Vester, Buck, Dead Injun, N. Fk. Deer, S. Fk. Deer, and Corral Creeks.

The permittees provide a rider to herd livestock, distribute salt for utilization by livestock in a manner to provide for resource protection, maintain fences and water developments, monitor grazing use, and report potential concerns to the MNF. Key riparian areas which will be monitored on this allotment are: 1) Deer Creek from the forest boundary to Dead Injun Creek; 2) lower Vester, Buck, Dead Injun, and North Fork Deer Creeks; 3) Corral Creek upstream to Alder Creek; 4) South Fork Deer Creek to above exclosures; 5) South Fork Murderers Creek from forest boundary to Bark Cabin Creek; 6) South Fork Murderers Creek from Bark Cabin Creek to Beaverdam Creek; 7) Thorn and Duncan Creeks; 8) Crazy Creek from confluence to 1 mile upstream; 9) Murderers Creek from forest boundary to Stewart Cabin; and, 10) Murderers Creek from Stewart Cabin to Guard Station.

1.3.4 Blue Mountain Allotment

The Blue Mountain Allotment contains 22,447 acres of MNF-administered land. According to the BA submitted by the MNF, there are approximately 21 miles of steelhead-bearing streams

which include Crawford Creek, Idaho Creek, and Summit Creek, Clear Creek, and the upper Middle Fork John Day River. The West Summit pasture has portions of the Middle Fork of the John Day River and Clear Creek and both provide steelhead spawning and rearing habitat. The Crawford Creek Pasture contains most of Crawford Creek while the Idaho Creek pasture has the majority of Idaho Creek in its boundaries. Both Crawford and Idaho Creeks provide both steelhead spawning and rearing habitat. The East Summit pasture contains a significant portion of Summit Creek which also provides steelhead spawning and rearing habitat. Crawford Creek enters the MFJD near River Mile (RM) 70 and Summit Creek enters near RM 70.5. The proposed grazing rotation for the Blue Mountain allotment is contained in Table 2 above. Habitat conditions are summarized under Environmental Baseline (Section 4.2) below. The permittee provides a rider to herd livestock, distribute salt for utilization by livestock in a manner to provide for resource protection, maintain fences and water developments, monitor grazing use, and report potential concerns to the MNF. The proposed monitoring for this allotment is the Grazing Implementation Monitoring Module developed by the Interagency Implementation Team.

1.3.5 Long Creek Allotment

The Long Creek allotment contains 49,628 acres of MNF-administered land. There are seven pasture units on MNF-administered land in this allotment but Camp Creek, Keeney Meadows, Lick Creek Riparian, and Ladd pastures will be used only for gathering and for pasturing strays. The primary pastures which the MNF proposes to use during the 2001 season are Flat Camp, Lick Creek, and Hiyu. The only pasture that does not contain steelhead habitat is the Keeney Meadows pasture. In 2001, livestock turnout would occur prior to July 15 on the Lick Creek pasture which contains steelhead spawning and rearing habitat in Camp Creek, Cougar Creek, Trail Creek, Lick Creek, and the West Fork of Lick Creek. From the Lick Creek pasture, cows are moved into the Camp Creek Riparian pasture and the Lick Creek Riparian pasture. These pastures are both short-use pastures and serve as gathering pastures prior to the cows being moved into the Hiyu pasture. The Hiyu pasture contains steelhead spawning and rearing habitat in Coxie Creek and Deep Creek and will be used until August 30 at which time the livestock will be moved to the Flat Camp pasture. The Flat Camp pasture contains steelhead spawning and rearing habitat in Long Creek and Cottonwood Creek. Camp Creek enters the MFJD near RM 48 and Long Creek enters near RM 6. Habitat conditions are summarized under Environmental Baseline (Section 4.2) below. The permittees provide a rider to herd livestock, distribute salt for utilization by livestock in a manner to provide for resource protection, maintain fences and water developments, monitor grazing use, and report potential concerns to the MNF. The proposed monitoring for this allotment is the Grazing Implementation Monitoring Module developed by the Interagency Implementation Team.

1.3.6 Upper Middle Fork Allotment

The Upper Middle Fork Allotment contains 54,537 acres of suitable grazing land. There are eight pasture units on MNF-administered lands in this allotment and three of these pastures (Deerhorn, Austin, and Upper Vinegar) will be rested this year. Vinegar Creek enters the MFJD

near RM 65. The allotment will be grazed this year by two different sets of permittees. One set will move 100 cow/calf pairs into the Caribou pasture on June 15. If needed as determined by meeting stubble height standards, the livestock will be moved into the Lower Vinegar pasture after using the Caribou pasture. The Shop pasture will be used for the gathering process at the end of the season on October 1. Another set of permittees will move 190 cow/calf pairs into the Butte pasture on September 2 where they will remain until stubble height standards are met or until October 31, whichever comes first. The permittees provide a rider to herd livestock, distribute salt for utilization by livestock in a manner to provide for resource protection, maintain fences and water developments, monitor grazing use, and report potential concerns to the MNF. The proposed monitoring for this allotment is the Grazing Implementation Monitoring Module developed by the Interagency Implementation Team.

1.4 Allotment Monitoring

An April 14, 2000, USFS/BLM memorandum transmitted the “2000 Grazing Implementation Monitoring Module” to the MNF and other National Forests and Bureau of Land Management (BLM) districts in Oregon. The MNF conducted implementation monitoring in 2000 as directed in the module on MNF-administered allotments in the UJDR and MFJD subbasins and will do so again in 2001. Areas where monitoring will be focused are described above under each allotment.

The MNF is within the area covered by PACFISH¹. All agency activities in this area are required to be consistent with their Land and Resource Management Plan (LRMP) as modified by PACFISH. Activities must also be consistent with the requirements of NMFS’ June 22, 1998, Opinion, “Section 7 Consultation on the Effects of Continued Implementation of Land and Resource Management Plans on Endangered Species Act Listed Salmon and Steelhead in the Upper Columbia and Snake River Basins” (NMFS 1998).

1.5 Biological Information and Critical Habitat

The listing status and biological information for MCR steelhead are described in Busby et al. (1996) and NMFS (1997). The NMFS designated critical habitat for MCR steelhead on February 16, 2000 (65 FR 7764). The adjacent riparian zones are included in this critical habitat designation. The livestock grazing actions discussed in this Opinion are within the area designated as critical habitat for MCR steelhead.

According to the BA, MCR steelhead adults enter the John Day River as early as September with peak migration in October, depending on water temperature. Spawning in the John Day basin occurs from March to mid- June. Izee Falls at RM 28.5 on the SFJD River and within the UJDR subbasin is a natural barrier to upstream migration of anadromous fish. Fry emergence timing

¹ U.S. Department of Agriculture (USDA) and U.S. Department of Interior (USDI). 1994. Environmental Assessment for Implementation of Interim Strategies for Managing Anadromous Fish-producing Watersheds in Eastern Oregon and Washington, Idaho, and Portions of California (PACFISH). March.

depends on time of spawning and water temperature during egg incubation, but usually occurs from late May through the end of June. MCR steelhead rear in the cooler tributary streams and in the mainstem John Day River upstream from the community of John Day, Oregon (RM 248). High summer water temperatures in the mainstem downstream from Mt. Vernon, Oregon (RM 240) preclude summer rearing by juvenile salmonids. Essential features of designated critical habitat for MCR steelhead adult spawning, juvenile rearing, and adult and juvenile migration are: 1) Substrate, 2) water quality, 3) water quantity, 4) water temperature, 5) water velocity, 6) cover/shelter, 7) food (juvenile only), 8) riparian vegetation, 9) space, and 10) safe passage conditions (50 CFR 226). The essential features that the proposed actions may affect are water quality and riparian vegetation resulting from livestock grazing activities.

1.6 Evaluating Proposed Actions

The standards for determining jeopardy are set forth in section 7(a)(2) of the ESA as defined by 50 CFR Part 402 (the consultation regulations). NMFS must determine whether the action is likely to jeopardize the listed species and/or whether the action is likely to destroy or adversely modify critical habitat. This analysis involves the: 1) Definition of the biological requirements and current status of the listed species; and 2) evaluation of the relevance of the environmental baseline to the species' current status.

Subsequently, NMFS evaluates whether the action is likely to jeopardize the listed species by determining if the species can be expected to survive with an adequate potential for recovery. In making this determination, NMFS must consider the estimated level of mortality attributable to: 1) Collective effects of the proposed or continuing action; 2) the environmental baseline; and 3) any cumulative effects. This evaluation must take into account measures for survival and recovery specific to the listed salmonid's life stages that occur beyond the action area. If NMFS finds that the action is likely to jeopardize, NMFS must identify reasonable and prudent alternatives for the action.

Furthermore, NMFS evaluates whether the action, directly or indirectly, is likely to destroy or adversely modify the listed species' designated critical habitat. The NMFS must determine whether habitat modifications appreciably diminish the value of critical habitat for both survival and recovery of the listed species. The NMFS identifies those effects of the action that impair the function of any essential element of critical habitat. The NMFS then considers whether such impairment appreciably diminishes the habitat's value for the species' survival and recovery. If NMFS concludes that the action will destroy or adversely modify critical habitat it must identify any reasonable and prudent alternatives available.

For the subject actions, NMFS' jeopardy analysis considers direct or indirect mortality of fish attributable to the actions. NMFS' critical habitat analysis considers the extent to which the proposed action impairs the function of essential biological elements necessary for juvenile and adult migration, spawning, and rearing of the MCR steelhead under the existing environmental baseline.

1.6.1 Biological Requirements

The first step the NMFS uses when applying the ESA section 7(a)(2) to listed steelhead is to define the species' biological requirements that are most relevant to each consultation. The NMFS also considers the current status of the listed species taking into account population size, trends, distribution and genetic diversity. To assess the current status of the listed species, NMFS starts with the determinations made in its decision to list MCR steelhead and designate MCR critical habitat for ESA protection and also considers new data available that is relevant to the determination.

The relevant biological requirements are those necessary for MCR steelhead to survive and recover to naturally reproducing population levels at which protection under the ESA would become unnecessary. Adequate population levels must safeguard the genetic diversity of the listed stock, enhance their capacity to adapt to various environmental conditions, and allow them to become self-sustaining in the natural environment.

For this consultation, the biological requirements are improved habitat characteristics that function to support successful adult and juvenile migration, spawning and rearing. MCR steelhead survival in the wild depends upon the proper functioning of certain ecosystem processes, including habitat formation and maintenance. Restoring functional habitats depends largely on allowing natural processes to increase their ecological function, while at the same time removing adverse impacts of current practices. In conducting analyses of habitat-altering actions and essential habitat elements, NMFS defines the biological requirements in terms of a concept called Properly Functioning Condition (PFC) and utilizes a "habitat approach" to its analysis (NMFS 1999). The current status of the MCR steelhead, based upon their risk of extinction, has not significantly improved since the species was listed.

1.6.2 Environmental Baseline

The environmental baseline is an analysis of the effects of past and on-going human-caused and natural factors leading to the current status of the species or its habitat and ecosystem within the action area. The "action area" is defined as "all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action" (50 CFR 402.02). The "action area" for this consultation, therefore, includes: 1) Dixie Creek, Bear Creek, and their tributaries within or adjacent to the MNF-administered portions of the Dixie Allotment; 2) Beech Creek, East Fork Beech Creek, Belshaw Creek, and their tributaries within or adjacent to the MNF-administered portions of the Mt. Vernon-John Day-Beech Creek Allotment; 3) Murderers Creek, Deer Creek, and their tributaries within or adjacent to the MNF-administered portions of the Murderers Creek Allotment; 4) Crawford Creek, Idaho Creek, Summit Creek, Squaw Creek, Clear Creek, Middle Fork John Day river (downstream to the forest boundary), and their tributaries within or adjacent to the MNF-administered portions of the Blue Mountain Allotment; 5) Camp Creek, Cottonwood Creek, Cougar Creek, Coxie Creek, Lick Creek, Long Creek, West Fork Lick Creek, Jonas Creek, and their tributaries within or adjacent to the MNF-administered portions of the Long Creek Allotment; and 6) Vincent Creek, Vinegar Creek, Little Boulder

Creek, Windless Creek, Caribou Creek, Granite Boulder Creek, Middle Fork John Day river (downstream to the forest boundary), Ruby Creek, Butte Creek, Little Butte Creek, Ragged Creek, Placer Gulch Creek, and their tributaries within or adjacent to the MNF-administered portions of the Upper Middle Fork Allotment. These streams contain spawning, rearing, or migratory habitat for MCR steelhead and are within designated critical habitat.

The UJDR subbasin encompasses 1,008,414 acres from the headwaters of the John Day River in the Blue and Strawberry Mountains downstream to the NFJD River confluence at RM 185 near Kimberly, Oregon. The MNF administers 427,298 acres (42.4 percent) in the UJDR subbasin. Another 41.8 percent is private, 8.2 percent is administered by BLM, 5.4 percent is on the Ochoco National Forest, and 2.2 percent is owned by the State of Oregon. Major tributaries within the subbasin include Rock Creek, the SFJD River, Beech Creek, Canyon Creek, Dixie Creek, and Strawberry Creek. The MNF-administered portions of the three livestock grazing allotments addressed in this Opinion comprise a total of approximately 120,350 acres (12 percent) of the land in the UJDR subbasin.

The MFJD subbasin encompasses 506,853 acres from its headwaters to its confluence with the North Fork John Day River at RM 32.2. The Forest Service manages 270,473 acres (53%) of the subbasin. Major tributaries to the MFJD include Clear Creek, Big Creek, and Granite Boulder Creek. The MNF-administered portions of the three livestock allotments addressed in this Opinion comprise a total of approximately 126,600 acres (25 percent) of the land in the MFJD subbasin.

The current population status and trends for MCR steelhead are described in Busby et al. (1996) and in NMFS (1997). Busby (1996) citing Oregon Department of Fish and Wildlife (ODFW) data stated that the total MCR steelhead run size for the John Day River basin has recently averaged about 5,000 fish. NMFS (1997) citing Chilcote (1997) states that recent MCR steelhead redd counts conducted in established index areas throughout the John Day River basin suggest universal declines in redd abundance ranging from -0.9 to -5.6% over the past several years. In general, the current status of MCR steelhead populations is the result of several long-term, human-induced factors (e.g. habitat degradation, water diversions, hydropower dams) that serve to exacerbate the adverse effects of natural environmental variability from such factors as drought, floods, and poor ocean conditions. Within the action area, habitat degradation has occurred from timber harvest, road construction, water diversions, livestock grazing, and agriculture.

Environmental baseline conditions within the action area were evaluated for the subject actions at the project level and watershed scales. The results of this evaluation, based on the “matrix of pathways and indicators” (MPI) described in *Making Endangered Species Act Determinations of Effect for Individual or Grouped Actions at the Watershed Scale* (NMFS 1996), follow. This method assesses the current condition of instream, riparian, and watershed factors that collectively provide properly functioning aquatic habitat essential for the survival and recovery of the species. Izee Falls is a natural waterfall located on the SFJD River at River Mile 28.5 which is a complete barrier to upstream migration by anadromous salmonids.

In the UJDR subbasin, 13 of the 19 habitat indicators in the MPI were rated as “functioning at risk.” These were: Nutrients, large woody debris, large pools, off-channel habitat, refugia, width\depth ratio, streambank condition, floodplain connectivity, change in peak/base flow, drainage network increase, disturbance history, riparian habitat conservation areas, and disturbance regime. Six of the 19 were rated as “not properly functioning.” These were: Temperature, sediment, physical barriers, substrate embeddedness, pool frequency and quality, and road density and location. None of the habitat indicators were rated by the MNF as properly functioning. The environmental baseline conditions for each habitat indicator in the MPI are described in the BA and incorporated into this Opinion by reference. These habitat indicators provide the template for assessing the essential elements of MCR critical habitat. This method assesses the current condition of instream, riparian, and watershed factors that collectively provide properly functioning aquatic habitat essential for the survival and recovery of the species. An assessment of the essential features of MCR steelhead critical habitat is obtained by using the MPI process to evaluate whether aquatic habitat is properly functioning.

In the MFJD subbasin, 13 of the 19 habitat indicators in the MPI were rated as “functioning at risk.” These were: Sediment, nutrients, large woody debris, off-channel habitat, refugia, width\depth ratio, streambank condition, floodplain connectivity, change in peak/base flow, drainage network increase, disturbance history, riparian habitat conservation areas, and disturbance regime. Six of the 19 were rated as “not properly functioning.” These were: Temperature, physical barriers, substrate embeddedness, pool frequency and quality, large pools, and road density and location. None of the habitat indicators were rated by the MNF as properly functioning. The environmental baseline conditions for each habitat indicator in the MPI are described in the BA and incorporated into this Opinion by reference. These habitat indicators provide the template for assessing the essential elements of MCR critical habitat. This method assesses the current condition of instream, riparian, and watershed factors that collectively provide properly functioning aquatic habitat essential for the survival and recovery of the species. An assessment of the essential features of MCR steelhead critical habitat is obtained by using the MPI process to evaluate whether aquatic habitat is properly functioning.

1.6.2.1 Allotment Specific Conditions

1.6.2.1.1 Blue Mountain Allotment

Stream survey data on habitat parameters in Crawford Creek in the Crawford Creek pasture of the Blue Mountain Allotment indicate that streambank stability is greater than 90 percent. Average shade was low, ranging from 3 to 29 percent. In the Idaho Creek pasture, Idaho Creek exhibits high streambank stability with an average of 98 percent. Shade ranged from 41 to 58 percent. Summit Creek in the East Summit pasture has streambank stability that ranges from 82 to 93 percent and stream shade that ranges from 37 to 53 percent. The MFJD river and Clear Creek in the West Summit pasture also exhibit high streambank stability with averages of 91 and 94 percent respectively. Shade on the MFJD river was 38 percent but only 28 percent on Clear Creek. Crawford and Summit creeks and the MFJD are on the Clean Water Act (CWA) section 303(d) list for exceeding water temperature standards.

Potential MCR steelhead spawning habitat has been found on Crawford Creek, Idaho Creek, Summit Creek, Squaw Creek, Clear Creek, and the MFJD River.

The West Summit pasture was monitored during the 2000 grazing season as part of the Interagency Implementation Team (IIT) monitoring module and all parameters were within standards. Unauthorized use was noted in the East Summit and Crawford pastures during the 2000 season. The livestock that were responsible for unauthorized use in the East Summit pasture came from the Sullens allotment and this allotment will not be used in 2001. The unauthorized use in the Crawford pasture came from livestock on a Wallowa-Whitman National Forest (WWNF) allotment and were the result of fences not being maintained because of a lack of communication between the WWNF permittee and the permittee on the Blue Mountain allotment. The fence has been repaired and the MNF plans to make sure unauthorized use does not occur again this year.

1.6.2.1.2 Long Creek Allotment

Stream survey data on habitat parameters in Camp Creek, Cottonwood Creek, and Long Creek in the Flat Camp, Flat Cow Camp, and Ladd pastures indicates that stream stability is high with values ranging from 92 to 98 percent. In the Lick Creek pasture Camp Creek, Cougar Creek, Trail Creek, and the West Fork of Lick Creek also exhibited high streambank stability with values ranging from 89 to 100 percent. In the Hiyu and Keeney Meadows pastures, Coxie and Deep Creeks had bank stability of 99 and 97 percent, respectively. Potential MCR steelhead spawning habitat exists in Camp Creek, Cottonwood Creek, Long Creek, Cougar Creek, Trail Creek, West Fork Lick Creek, Coxie Creek, and Deep Creek. Camp and Long creeks are on the CWA section 303(d) list for exceeding water temperature standards.

Monitoring during the 2000 season was conducted in the Camp Creek Riparian, Hiyu, Lick Creek Riparian, and Lick Creek pastures. All met stubble-height and streambank stability standards.

1.6.2.1.3 Upper Middle Fork Allotment

Mill Creek within the Austin pasture had 91 percent stable banks and stream shading was 40 percent. In the Upper Vinegar and Lower Vinegar pastures, Vincent Creek exhibited greater than 90 percent bank stability. In the Caribou pasture, bank stability was high on Little Boulder Creek, Windless Creek, Caribou Creek, and Granite Boulder Creek with values ranging from 82 to 99 percent. Shade on Little Boulder Creek ranged from 23 to 28 percent while shade ranged from 43 to 50 percent on Windlass Creek. Caribou Creek had shade ranging from 18 to 38 percent and on Granite Boulder Creek shade ranged from 34 to 40 percent. The MFJD river has 90 percent stable banks in the Shop and River pastures while Ruby Creek's bank stability ranges between 91 to 96 percent. Shade on Ruby Creek ranged from 23 to 64 percent. In the Butte Creek pasture, Butte Creek, Little Butte Creek, and Ragged Creek all exhibited greater than 86 percent stable banks. Shade ranged from 31 to 66 percent. The only stream data available for the Deerhorn pasture is for Placer Gulch Creek and indicates that average shade was 34 percent.

Potential MCR steelhead spawning habitat has been found on Vincent Creek, Vinegar Creek, Little Boulder Creek, Windless Creek, Caribou Creek, Granite Boulder Creek, MFJD River, Ruby Creek, Butte Creek, Little Butte Creek, Ragged Creek, and Placer Gulch Creek. Caribou, Granite Boulder, Little Boulder, Little Butte, Ragged, and Vinegar creeks are on the CWA section 303(d) list for exceeding water temperature standards.

Monitoring during the 2000 season focused on the Deerhorn and River pastures and both were within stubble-height standards.

1.6.2.1.4 Dixie Allotment

Stream survey data on habitat parameters in Dixie, Standard, and Wickiup Creeks in the Standard Creek pasture of the Dixie Allotment indicate that streambank stability is high on all streams, ranging from 99 to 100 percent. Stream substrates are embedded in Dixie Creek, but not on other streams. Shrub cover along streambanks ranged from 23 to 87 percent and stream shade from 50 to 63 percent. In the Bear Creek pasture, Bear Creek and Hall Creek also have stable streambanks (98-99 percent) and non-embedded substrates; with shrub cover ranging from 25 to 60 percent and stream shade from 25 to 68 percent. Bear Creek is on the CWA section 303(d) list for exceeding water temperature standards; no other streams on this allotment are on the list.

Surveys conducted by MNF Fisheries and Range personnel during July of 2000 found potential MCR steelhead spawning habitat in Bear Creek and Dixie Creek on this allotment. No suitable MCR steelhead spawning habitat was found in Hall Creek (a Bear Creek tributary), as substrate was too large and embedded. The reach of Bear Creek surveyed was classified as Rosgen “B” channel type, while Dixie Creek (0.2 mile downstream from Forest Road 2050) was classified as Rosgen “C” channel type. No MCR steelhead habitat is present in the East Fork of Dixie Creek (Dixie Meadows). In the headwaters of main Dixie Creek (Rosgen “B” channel type), some poor quality MCR steelhead spawning gravel is present but it is heavily embedded. The segment of Standard Creek which was surveyed consisted of Rosgen “A” and “B” channel types and most of the substrate was too large for MCR steelhead spawning. No steelhead redds were found during the 2000 survey.

None of the pasture units on the Dixie Allotment were selected or randomly drawn for implementation monitoring as part of the IIT Grazing Module during 2000.

1.6.2.1.5 Mount Vernon-John Day-Beech Creek Allotment

Stream survey data on streams in this allotment found streambank stabilities of 87 percent on Belshaw Creek, 92-96 percent on Bear Creek, 87 percent on Beech Creek, 73-84 percent on Clear Creek, 80 percent on E.Fk. Beech Creek, and 86 percent on McClellan Creek. Substrates of all streams on this allotment were found to be embedded. No information was available on streambank cover or stream shading. Belshaw Creek is on the CWA 303(d) list for exceeding temperature standards. Beech Creek and its tributaries are not on the CWA 303(d) list.

Surveys conducted by MNF Fisheries and Range personnel during July of 2000 found potential MCR steelhead spawning habitat in McClellan, Birch, and Belshaw Creeks. There are numerous beaver dams in McClellan Creek on private land downstream from the Forest boundary; some of which may be partial barriers to upstream migration by adult MCR steelhead at certain stream flows. Small patches of poor quality spawning substrate were found in Rosgen "C" and "B" channel types just upstream from private land in the McClellan Pasture. Further upstream in McClellan Creek (T12S,R31E, Section 11, NE1/4 of NE1/4) good quality MCR steelhead spawning gravel was found in Rosgen "C" channel type. Upstream from that reach, the valley becomes narrower creating a Rosgen "B" channel type and substrate is too large to be utilized by MCR steelhead for spawning. Birch Creek in the Belshaw Pasture is mostly steep "A" channel type with no spawning gravels, with one short reach of "B" channel containing a few small patches of poor quality (highly embedded) gravel. The lower 0.5 mile of Belshaw Creek (just upstream from private property) contains good quality MCR steelhead spawning gravel. No steelhead redds were found during the 2000 survey.

In the Ennis pasture, much of Clear Creek is inaccessible to livestock because of steep topography. In the Belshaw pasture, a fence along Belshaw Creek excludes cattle from most of that stream. Steep topography and dense vegetation limit access by livestock to Birch Creek in the Belshaw pasture.

According to the end-of-year Range Report for 2000 provided by the MNF, the Cohoe and East Fork pastures on the MV-JD-BC allotment were randomly drawn for implementation monitoring as part of the IIT Grazing Module during 2000. The Cohoe Pasture does not contain MCR steelhead habitat. The East Fork pasture contains MCR steelhead spawning and rearing habitat in the East Fork of Beech Creek. Both of these pastures met stubble height requirements during 2000.

1.6.2.1.6 Murderers Creek Allotment

Stream survey information on this allotment, indicates streambank stabilities of 91-100 percent for Murderers Creek, 97 percent for Crazy Creek, 85 percent for South Fork Murderers Creek, and 99 percent for Deer Creek. Stream substrates for all streams were found to be embedded. Sensitive areas along the South Fork of Murderers Creek are fenced to exclude cattle; and other sections of the stream are too steep and entrenched to allow cattle access. No information was available on streambank cover or stream shading. As mentioned above, Murderers Creek is on the CWA 303(d) list for exceeding water temperature standards.

Wild horses are present in all pasture units within the Murderers Creek Allotment. Over-utilization of riparian vegetation and streambank trampling by these horses may occur in some stream reaches where these animals tend to concentrate.

Surveys conducted by MNF Fisheries and Range personnel during July of 2000 found potential MCR steelhead spawning habitat in South Fork Murderers Creek and Crazy Creek in the Timber Mountain Pasture of this allotment. The lower 250 yards of Crazy Creek was found to contain

some fair to poor quality spawning gravels in a Rosgen “B” channel type. The South Fork of Murderers Creek contains fair to good quality MCR steelhead spawning habitat in a mostly “B” with short sections of “C” channel types in the Timber Mountain Pasture. No steelhead redds were found during the 2000 survey.

According to the end-of-year Range Report for 2000 provided by the MNF, the Murderers Creek, South Fork Murderers Creek Riparian, Red Rocks, Martin Corrals, and Oregon Mine pastures on the Murderers Creek allotment were randomly drawn for implementation monitoring as part of the IIT Grazing Module during 2000. In addition to the IIT Grazing Module requirements, key areas in the Frenchy Butte and Timber Mountain pastures were selected for additional monitoring during 2000. All of these pastures contain streams which provide MCR steelhead spawning and rearing habitat, except the Red Rocks pasture which provides only MCR steelhead rearing habitat in Duncan Creek. All pastures met stubble height standards except for the Timber Mountain pasture. Excess use occurred on lower Crazy Creek and the South Fork of Murderers Creek in the Timber Mountain pasture. Cattle also accessed these creeks, which provide spawning and rearing habitat for MCR steelhead, prior to July 15.

1.7 Analysis of Effects

1.7.1 Effects of Proposed Actions

The effects determination on habitat parameters in the BA was made using a method for evaluating current aquatic conditions (the environmental baseline) and predicting effects of the action on them. The process described in NMFS (1996) was used to provide adequate information in a tabular form in the BA for NMFS to determine the effects of actions subject to consultation. The expected effects of the actions are expressed in terms of how they restore, maintain, or degrade each of 19 aquatic habitat factors in the action area, as described in the “checklist for documenting environmental baseline and effects of the action” (checklist) completed for each action and watershed. The results of the completed checklist for the action provides a starting point for determining the overall effect of the action on the environmental baseline in the action area and for assessing effects on essential elements of MCR steelhead critical habitat. Implementation of the proposed livestock grazing actions on MNF-administered grazing allotments addressed in this Opinion is expected to maintain or restore all of the aquatic habitat parameters considered in the MPI.

Impacts of livestock grazing to stream habitat and fish populations can be separated into direct and indirect effects. Direct effects are those which contribute to the immediate loss or harm to individual fish or embryos (e.g., directly stepping on a fish, trampling a redd that results in the actual destruction of embryos, or dislodging the embryos from the protective nest and ultimately destroying eggs). Indirect effects are those impacts which occur at a later time, causing loss of specific habitat features (e.g., undercut banks, sedimentation of spawning beds), localized reductions in habitat quality (e.g., sedimentation, loss of riparian vegetation, changes in channel stability and structure), and, ultimately, cause loss or reductions of entire populations of fish, or widespread reductions in habitat quantity and/or quality.

1.7.1.1 Direct Effects

Direct effects of livestock grazing may occur when livestock enter the streams occupied by MCR steelhead to loaf, drink, or cross the stream. During the early phases of their life cycle, MCR steelhead have little or no capacity for mobility, and large numbers of embryos or young are concentrated in small areas. Livestock entering fish spawning areas can trample redds, and destroy or dislodge embryos and alevins. Belsky et al. (1997) provides a review of these direct influences on stream and riparian areas. Wading in streams by livestock can be assumed to induce mortality on eggs and pre-emergent fry at least equal to that demonstrated for human wading (Roberts and White 1992). In this investigation, a single wading incident upon a simulated spawning bed induced 43 percent mortality of pre-hatching embryos. In a recent (July 12, 2000) occurrence of unauthorized livestock grazing in the Sullens Allotment on the MNF, five of five documented MCR steelhead redds in a meadow area of a Rosgens C-type stream channel in Squaw Creek (MFJD subbasin) were trampled by cattle (U.S. Forest Service memorandum, August 17, 2000).

Avoidance of direct impacts to MCR steelhead spawning areas can be achieved by scheduling grazing in pastures where spawning habitat is present to occur after July 15 or by excluding known spawning areas from livestock access. As mentioned above, the ODFW guidelines for the timing of in-water work in the JDR basin, which are designed to protect salmonid species, do not allow in-water work in any stream in the basin prior to July 15. The period during which spawning MCR steelhead adults may be susceptible to harassment or eggs and pre-emergent fry susceptible to trampling by livestock is from March 15 to July 15 in the JDR basin streams. In some allotments or pastures, there are pre-existing natural topographic, geologic, and vegetative features or high spring water flows that naturally exclude or minimize livestock use from spawning areas. Other forms of direct take (e.g., harassment of MCR steelhead by livestock when livestock enter or are adjacent to occupied habitat, resulting in MCR steelhead behavioral modifications) are more difficult to address in the context of an economically-viable grazing program. Direct take in the form of harassment can be reduced, in the long term, by rangeland management that results in better riparian and in-channel habitat conditions that creates more cover and other important habitat features conducive to MCR steelhead survival and recovery.

Cattle wading into a stream to loaf, drink or cross the stream have the potential to frighten juvenile MCR steelhead from streamside cover. Once these juveniles are frightened from cover and swim into open water, they become more susceptible to predation from larger fish and avian predators. However, NMFS believes that the risk of mortality of juvenile salmonids due to flushing from cover by watering cattle is minimal.

1.7.1.2 Indirect Effects

Numerous symposia and publications have documented the detrimental effects of livestock grazing on stream and riparian habitats (Johnson et al. 1985; Menke 1977; Meehan and Platts 1978; Cope 1979; American Fisheries Society 1980; Platts 1981; Peek and Dalke 1982; Ohmart

and Anderson 1982; Kauffman and Krueger 1984; Clary and Webster 1989; Gresswell et al. 1989; Kinch 1989; Chaney et al. 1990, Belsky et al. 1997). These publications describe a series of synergistic effects that can occur when cattle over-graze or impact riparian areas. Over time, woody and hydric herbaceous vegetation along a stream can be reduced or eliminated; trampling by livestock causes streambanks to collapse; without vegetation to slow water velocities, hold the soil, and retain moisture, floods cause more erosion of streambanks; the stream becomes wider and shallower and in some cases downcut; the water table drops; and hydric, deeply rooted herbaceous vegetation dies out and becomes replaced by upland species with shallower roots and less ability to bind the soil. The resulting instability in water volume, increased summer water temperature, loss of pools and habitat adjacent and connected to streambanks, and increased substrate fine sediment and cobble embeddedness adversely affect MCR steelhead and their habitat.

Indirect effects of livestock grazing on riparian and instream habitats include compacting stream substrates, collapse of undercut banks, destabilized streambanks, localized reduction or removal of herbaceous and woody vegetation along streambanks and within riparian areas, increased width/depth ratio, reducing pool frequency, promoting incised channels, and lowering water tables (Platts 1991; Henjum et al. 1994). Belsky et al. (1997) provides a review of these indirect influences on stream and riparian areas. Riparian areas in poor condition are unable to buffer the effects of accelerated runoff. Accelerated runoff can cause unstable stream channels to downcut or erode laterally, accelerating erosion and sediment production (Chaney et al. 1990). Lateral erosion results in progressively wider and shallower stream channels that have warmer water temperatures, less structure, and are less productive, thus adversely affecting fish populations. Streambank hoof shearing, hummocking, bank sloughing and inadequate carry-over vegetation reduces bank stability and silt filtration capacity (Kinch 1989).

Based on plant phenology, the only grazing strategies generally considered to have a good chance for rehabilitating degraded streams and riparian areas are light or tightly controlled uses such as winter-only grazing or riparian pastures with short, early-spring use periods, and certain strategies incorporating a full season rest (Platts 1991). Clary and Webster (1989) consolidated a number of studies to outline measures needed for maintenance and restoration of fully functioning riparian areas. They recommend resting most poor ecological condition (percent similarity of riparian vegetation to the potential natural community/composition < 25 percent; or stream bank/channel condition rating of "poor") riparian areas and applying "riparian grazing management practices" such as spring-only grazing and residual vegetation requirements to riparian areas in fair (percent similarity of riparian vegetation to the potential natural community/composition 26-50 percent or better; and stream bank/channel condition rating of at least "fair") or better ecological condition. They stress that even ecologically conservative grazing systems will not succeed without good range management such as adequate fencing, good distribution of water and salt, and adequate riding to ensure uniform cattle distribution. Cow/calf pairs have a tendency to concentrate and loaf in riparian areas during mid to late summer.

Concentrated livestock use, as often occurs in uncontrolled season-long and certain rotational grazing systems, may cause unacceptable damage to woody plants and streambank morphology (Clary and Webster 1989). Spring and winter season use generally produce better livestock distribution between riparian and upland areas due to flooding of riparian areas that limits access for cattle, the presence of palatable forage on the uplands, and alternative water sources (Leonard et al. 1997, Ehrhart and Hanson 1997, and Kinch 1989). Myers (1989) concluded that good or excellent riparian conditions were maintained by grazing systems which lacked livestock use during the hot season, and recommended grazing not be allowed during the hot summer months more than once every four years. Similarly, Clary and Webster (1989) stated grazing should be avoided during mid and late summer and recommend early grazing, followed by complete removal of livestock. Early grazing allows significant herbaceous regrowth to occur in riparian areas, reducing most grazing damage to vegetation before higher flows occur the following spring or summer, and avoids impacts to woody plant species when livestock forage preference shifts occur.

In areas under historic season-long grazing, major vegetation changes can and have taken place with changes in livestock use. Routinely grazing an area too late in the growing season can cause adverse changes in the plant community. Individual plants are eliminated by re-grazing them during the growing season and not allowing adequate recovery after grazing. Regardless of seral stage, at least six inches of residual stubble or regrowth is recommended to meet the requirements of plant vigor maintenance, bank protection, and sediment entrapment (Clary and Webster 1989). More than six inches of stubble height may be required for protection of critical fisheries or easily eroded streambanks and riparian ecosystem function (Clary and Webster 1989).

Over time, entire plant communities can change as a result of heavy or prolonged grazing pressure. In mountain riparian systems of the Pacific Northwest, the replacement of native bunch grass with Kentucky bluegrass has occurred in many areas. Kentucky bluegrass has established itself as a dominant species in native bunch grass meadows as a result of overgrazing and subsequent habitat deterioration. Plants in the early seral stage community do not provide as much protection for the watershed and streambanks. Many forbs and annual plants that frequently dominate early seral plant communities do not have the strong deep root systems of the later seral perennials such as bunch grasses, sedges, rushes, shrubs, and willows. Kauffman et. al. (1982) found that when grazing in moist meadows was halted, succession towards a more mesic/hydric plant community occurred.

With the implementation of PACFISH in 1994, many riparian areas in the John Day River basin have management programs in place to protect and enhance their condition. According to the BA, MNF fishery biologists, hydrologists, and range conservationists indicate that the majority of the perennial streams located on MNF-administered livestock grazing allotments are showing improving trends in grass and shrub growth and vigor and streambank stability. These trends are noted through general observation and documented by photographs and riparian survey data.

1.7.1.3 Allotment Specific Effects

As discussed above, MCR steelhead spawn in John Day River basin streams beginning as early as March and continuing through mid-June. Fry emergence occurs from late May into early July, depending on time of spawning and water temperature. Therefore, if livestock access is allowed at any time between mid-March and mid-July on streams where MCR steelhead spawn, there is potential for harassment of spawning adults or trampling of redds. Trampling of redds can result in direct mortality of eggs and pre-emergent fry in stream gravels. As described above, if riparian grazing is allowed, the best time for it to occur from a vegetation standpoint is probably during early spring to allow for regrowth of vegetation prior to the end of the growing season.

Studies (Leonard et al. 1997, Ehrhart and Hanson 1997, and Kinch 1989) have shown that cattle are less likely to concentrate in riparian areas during spring months because of flooding and because water and herbaceous vegetation for grazing is readily available in upland areas away from streams. By June, stream flows have receded and water and forage may be less available in upland areas. All allotments covered by this Opinion contain streams where MCR steelhead are known or suspected to spawn and rear. Current MNF grazing strategies allow livestock grazing on some portions of these allotments during the time when MCR steelhead eggs or alevins may be present in stream gravels. Although not specifically addressed in these studies, it may be inferred that drought conditions might serve to congregate cattle use in riparian areas at an earlier time of the season.

Under current MNF grazing strategies for 2001 in the UJDR subbasin, livestock are scheduled to be turned out on June 1 in the Bear Creek pasture of the Dixie Allotment and in the Timber Mountain pasture of the Murderers Creek Allotment (Table 1). Cattle are scheduled to be turned out on June 11 in the Belshaw and Ennis pastures of the MV-JD-BC Allotment. Groups of 35 cow/calf pairs or less will use the Beech Creek "On-Off" pasture on the MV-JD-BC Allotment as early as May 15. Surveys conducted by MNF Fisheries and Range personnel during July, 2000, found that potential steelhead spawning habitat is present in Bear Creek on the Dixie Allotment, in the South Fork Murderers Creek and Crazy Creek on the Murderers Creek Allotment, and in McClellan, Birch, and Belshaw Creeks on the MV-JD-BC Allotment. No MCR steelhead redds were found in any of these areas during 2000, but MNF personnel will check these stream reaches for MCR steelhead redds again in 2001. As discussed above in Section 2 (Proposed Action), herding, salting, and upland water developments will be used on all allotments to keep cattle out of riparian areas and streams where MCR steelhead may spawn and eggs incubate prior to July 15. Monitoring will focus on riparian areas to ensure that forage utilization standards and streambank stability standards are being met.

Under current MNF grazing strategies for 2001 in the MFJD subbasin, livestock are scheduled to be turned out on June 19 in the West Summit pasture of the Blue Mountain Allotment and on June 1 in the Lick Creek pasture of the Long Creek Allotment (Table 2). Cattle are scheduled to be turned out on June 15 in the Caribou pasture of the Upper Fork Allotment. Potential steelhead spawning habitat is present in each of these pastures (Section 4.2.1 above). MNF personnel will check each of these stream reaches for MCR steelhead redds in 2001. As discussed above in the

“Proposed Action” section, herding, salting, and upland water developments will be used on all allotments to keep cattle out of riparian areas and streams where MCR steelhead may spawn and eggs incubate prior to July 15. Monitoring will focus on riparian areas to ensure that forage utilization standards and streambank stability standards are being met.

1.7.2 Cumulative Effects

"Cumulative effects" are defined in 50 CFR 402.02 as those effects of "future State or private activities, not involving Federal activities, that are reasonably certain to occur within the action area of the Federal action subject to consultation." The "action area" for this consultation includes: 1) Dixie Creek, Bear Creek, and their tributaries within or adjacent to the MNF-administered portions of the Dixie Allotment; 2) Beech Creek, East Fork Beech Creek, Belshaw Creek, and their tributaries within or adjacent to the MNF-administered portions of the Mt. Vernon-John Day-Beech Creek Allotment; 3) Murderers Creek, Deer Creek, and their tributaries within or adjacent to the MNF-administered portions of the Murderers Creek Allotment, 4) Crawford Creek, Idaho Creek, Summit Creek, Squaw Creek, Clear Creek, Middle Fork John Day river (downstream to the forest boundary), and their tributaries within or adjacent to the MNF-administered portions of the Blue Mountain Allotment; 5) Camp Creek, Cottonwood Creek, Cougar Creek, Coxie Creek, Lick Creek, Long Creek, West Fork Lick Creek, Jonas Creek, and their tributaries within or adjacent to the MNF-administered portions of the Long Creek Allotment; and 6) Vincent Creek, Vinegar Creek, Little Boulder Creek, Windless Creek, Caribou Creek, Granite Boulder Creek, Middle Fork John Day river (downstream to the forest boundary), Ruby Creek, Butte Creek, Little Butte Creek, Ragged Creek, Placer Gulch Creek, and their tributaries within or adjacent to the MNF-administered portions of the Upper Middle Fork Allotment. The MNF identified no specific private or state actions that are reasonably certain to occur in the future that would affect MCR steelhead or their habitat within the action area.

The MNF administers 427,298 acres (42.4 percent) of the 1,008,414-acre UJD sub-basin. Another 41.8 percent is private, 8.2 percent is administered by BLM, 5.4 percent is on the Ochoco National Forest, and 2.2 percent is owned by the State of Oregon. The MNF-administered portions of the three UJD livestock allotments addressed in this Opinion comprise a total of approximately 12 percent of the land in the UJD subbasin. The MFJD subbasin encompasses 506,853 acres from its headwaters to its confluence with the North Fork John Day River at RM 32.2. The Forest Service manages 270,473 acres (53 percent) of the subbasin. Major tributaries to the MFJD include Clear Creek, Big Creek, and Granite Boulder Creek. The MNF-administered portions of the three MFJD livestock allotments addressed in this Opinion comprise a total of approximately 25 percent of the land in the MFJD subbasin.

Significant improvement in MCR steelhead reproductive success outside of Federally-administered land is unlikely without changes in grazing, agricultural, and other practices occurring within these non-Federal riparian areas in the John Day River basin. Given that the MCR steelhead is listed as threatened and critical habitat has been designated, NMFS assumes that non-Federal land owners will take steps to curtail or avoid land management practices that would result in the take of MCR steelhead. However, NMFS is not aware of any specific future

actions which are reasonably certain to occur on non-Federal lands. Until improvements in non-Federal land management practices are actually implemented, NMFS assumes that future private and State actions will continue at similar intensities as in recent years.

1.8 Conclusion

The NMFS has determined that, when the effects of the subject actions addressed in this Opinion are added to the environmental baseline and cumulative effects occurring in the action area, they are not likely to jeopardize the continued existence of MCR steelhead. Additionally, the NMFS concludes that the subject actions would not cause adverse modification or destruction of designated critical habitat for MCR steelhead. These conclusions were reached primarily because: 1) All relevant aquatic habitat indicators on MNF-administered livestock grazing allotments addressed in this Opinion along the mainstem JDR and tributaries, the SFJDR and tributaries, and the MFJD and tributaries are expected to be maintained or improved under current grazing regimes and monitoring strategies; 2) available MNF monitoring data indicate that implementation of currently implemented grazing seasons has resulted in improvement in riparian vegetation conditions on most allotments; 3) although available data shows that trampling of MCR steelhead redds does occur and that the percentage of redds trampled can be high in certain channel types (meadow areas, C-type stream channels), improvements in the management of cattle on MNF-administered livestock grazing allotments containing or adjacent to MCR steelhead spawning areas are expected to minimize the number of redds trampled by livestock; and, 4) because of improvements in riparian vegetation, stream shading, and streambank stability, aquatic habitat indicators such as water temperature, sediment, substrate embeddedness, width/depth ratio, and streambank condition are expected to be improved and restored over the long term on John Day River tributary streams. In reaching these conclusions, NMFS has utilized the best scientific and commercial data available as documented herein and by the BA describing the Federal actions.

1.9 Conservation Recommendations

Section 7 (a)(1) of the ESA directs Federal agencies to utilize their authorities to further the purposes of the ESA by carrying out conservation programs for the benefit of the threatened and endangered species. Conservation recommendations are discretionary measures suggested to minimize or avoid adverse effects of a proposed action on listed species, to minimize or avoid adverse modification of critical habitat, or to develop additional information. The NMFS believes that the following conservation recommendation regarding livestock grazing should be implemented:

1. Review range improvement budget annually and give the top priority to riparian areas along streams containing MCR steelhead habitat which would benefit from development of off-channel water sources and cattle exclusion devices.
2. Review all allotments for opportunities to allow for rest or additional rest or additional rest of high priority pastures. Use the results of that review to reduce grazing impacts by

making allotment management changes such as more efficient grazing systems, restructuring pasture boundaries, and increasing the number of pastures within an allotment.

1.10 Reinitiation of Consultation

Reinitiation of consultation is required if: 1) The action is modified in a way that causes an effect on the listed species that was not previously considered in the BA and this Opinion; 2) new information or project monitoring reveals effects of the action that may affect the listed species in a way not previously considered; or 3) a new species is listed or critical habitat is designated that may be affected by the action (50 CFR. 402.16). The MNF may also be required to reinitiate consultation if the proposed actions are not consistent with conservation measures developed through the pending consultation on land and resource management plans for Federal land management units in the Mid and Upper Columbia River Basins.

2. INCIDENTAL TAKE STATEMENT

Section 4 (d) and Section 9 of the ESA prohibit any taking (harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in any such conduct) of listed species without a specific permit or exemption. Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding, and sheltering (64 FR 60727; November 8, 1999). Harass is defined as actions that create the likelihood of injuring listed species to such an extent as to significantly alter normal behavior patterns which include, but are not limited to, breeding, feeding, and sheltering. Incidental take is take of listed animal species that results from, but is not the purpose of, the Federal agency or the applicant carrying out an otherwise lawful activity. Under the terms of Section 7(b)(4) and Section 7(o)(2), taking that is incidental to, and not intended as part of, the agency action is not considered prohibited taking provided that such taking is in compliance with the terms and conditions of this incidental take statement. An incidental take statement specifies the impact of any incidental taking of threatened species. If necessary, it also provides reasonable and prudent measures that are necessary to minimize impacts and sets forth terms and conditions with which the action agency must comply in order to implement the reasonable and prudent measures.

2.1 Amount or Extent of Take

The NMFS anticipates that the subject grazing actions covered by this Opinion have more than a negligible likelihood of resulting in incidental take of MCR steelhead. Some level of incidental take is expected to result from livestock grazing due to the potential for cattle to actually trample MCR steelhead redds, disturbance of spawning adult steelhead, or frightening of juvenile MCR steelhead from cover by livestock wading in streams. Current grazing systems which allow summer-long (June-October) grazing may also result in impacts to riparian vegetation, streambank stability, and sedimentation. Because of the inherent biological characteristics of

aquatic species such as MCR steelhead, however, the likelihood of discovering take attributable to these actions is very small. Effects of actions such as those addressed in this Opinion are largely unquantifiable in the short term, and may not be measurable as long-term effects on the species' habitat or population levels. Therefore, even though NMFS expects some incidental take to occur due to the actions covered by this Opinion, the best scientific and commercial data available are not sufficient to enable NMFS to estimate a specific amount of incidental take of listed fish at any life stage.

2.2 Effect of the Take

In this Opinion, NMFS has determined that the level of anticipated take is not likely to result in jeopardy to MCR steelhead to destroy or adversely modify designated critical habitat for MCR steelhead when the reasonable and prudent measures are implemented.

2.3 Reasonable and Prudent Measures

The NMFS believes the following reasonable and prudent measures are necessary and appropriate to minimize the likelihood of take of MCR steelhead resulting from the actions covered by this Opinion. The MNF shall:

1. Minimize the likelihood of incidental take resulting from livestock grazing and associated activities by managing livestock grazing allotments such that direct effects of livestock on spawning adult MCR steelhead, steelhead eggs, and pre-emergent fry in streams on or adjacent to those allotments are avoided or minimized.
2. Minimize the likelihood of incidental take resulting from livestock grazing and associated activities by managing livestock grazing allotments such that direct and indirect effects of livestock on key components of MCR steelhead designated critical habitat are avoided or minimized.

2.4 Terms and Conditions

To be exempt from the prohibitions of section 9 of the ESA, the MNF must comply with the following terms and conditions, which implement the reasonable and prudent measures described above. These terms and conditions are non-discretionary.

1. To implement reasonable and prudent measure #1, above, the MNF shall:
 - a. Develop written criteria to designate suitable steelhead spawning habitat and develop a written protocol for conducting steelhead spawning surveys. The criteria and protocol will be presented to the Level 1 team for approval and implemented during FY 2002.

- b. Conduct at least one spawning survey during late-May and one spawning surveys during early-June, 2001, or as adjusted for run timing, in Dixie and Bear Creek on the MNF-administered portions of the Dixie Allotment to determine if MCR steelhead are spawning in these stream reaches. If MCR steelhead redds are located they will be mapped and added to the MNF GIS layer for known spawning locations. Appropriate measures will be taken to protect any MCR steelhead redds from access and disturbance by cattle.
- c. Between late-May and July, 2001, on the MNF-administered portions of the Mt. Vernon-John Day-Beech Creek Allotment, investigate those reaches of Belshaw Creek and Birch Creek which were not checked in 2000, to determine if suitable MCR steelhead spawning habitat is present and if MCR steelhead are spawning in these reaches. If MCR steelhead redds are located they will be mapped and added to the MNF GIS layer for known spawning locations. Appropriate measures will be taken to protect any MCR steelhead redds from access and disturbance by cattle.
- d. At least once during late-May and once during early-June, 2001, or as adjusted for run timing, on the MNF-administered portions of the Mt. Vernon-John Day-Beech Creek Allotment, conduct spawning surveys in those reaches of McClellan, Belshaw, and Birch Creeks where suitable MCR steelhead spawning habitat was located in 2000. If MCR steelhead redds are located they will be mapped and added to the MNF GIS layer for known spawning locations. Appropriate measures will be taken to protect any MCR steelhead redds from access and disturbance by cattle.
- e. At least once during June, 2001, on the Timber Mountain Pasture of the Murderers Creek Allotment, check the South Fork of Murderers Creek and the lower 250 yards of Crazy Creek for the presence of MCR steelhead redds. If MCR steelhead redds are located they will be mapped and added to the MNF GIS layer for known spawning locations. Appropriate measures will be taken to protect any MCR steelhead redds from access and disturbance by cattle.
- f. Between late-May and July, 2001, on the Blue Ridge and Frenchy Butte Pastures of the Murderers Creek Allotment, investigate those reaches of the South Fork of Murderers Creek and Deer Creek which were not checked in 2000, to determine if suitable MCR steelhead spawning habitat is present and if MCR steelhead are spawning in these reaches. If MCR steelhead redds are located they will be mapped and added to the MNF GIS layer for known spawning locations. Appropriate measures will be taken to protect any MCR steelhead redds from access and disturbance by cattle.
- g. At least once during late-May and once during early-June, 2001, or as adjusted for run timing, on the MNF-administered portions of the Blue Mountain Allotment,

conduct spawning surveys in those reaches of Middle Fork John Day River and Clear Creek where suitable MCR steelhead spawning habitat exists. If MCR steelhead redds are located they will be mapped and added to the MNF GIS layer for known spawning locations. Appropriate measures will be taken to protect any MCR steelhead redds from access and disturbance by cattle.

- h. Notify NMFS within 24 hours of any instances of unauthorized use on the Blue Mountain Allotment.
 - i. At least once during late-May and once during early June, 2001, or as adjusted for run timing, on the MNF-administered portions of the Long Creek Allotment, conduct spawning surveys in those reaches of Camp Creek, Cougar Creek, Trail Creek, Lick Creek, and the West Fork of Lick Creek where suitable MCR steelhead spawning habitat exists. If MCR steelhead redds are located they will be mapped and added to the MNF GIS layer for known spawning locations. Appropriate measures will be taken to protect any MCR steelhead redds from access and disturbance by cattle.
 - j. At least once during late-May and once during early June, 2001, or as adjusted for run timing, on the MNF-administered portions of the Upper Middle Fork Allotment, conduct spawning surveys in those reaches of Little Boulder Creek, Windless Creek, Caribou Creek, and Granite Boulder Creek where suitable MCR steelhead spawning habitat exists. If MCR steelhead redds are located they will be mapped and added to the MNF GIS layer for known spawning locations. Appropriate measures will be taken to protect any MCR steelhead redds from access and disturbance by cattle.
 - k. When unauthorized livestock use² or excess use³ occurs within stream reaches identified as MCR steelhead spawning habitat prior to July 15, the permittee will be notified to remove the livestock immediately. NMFS Habitat Division, Oregon State Branch, should be notified within 24 hours. Livestock shall be removed within two days of notification. If take of MCR steelhead has occurred, NMFS Law Enforcement should also be notified within 24 hours of discovery.
2. To implement reasonable and prudent measure #2, above, the MNF shall:
- a. Comply with all reasonable and prudent measures and terms and conditions, which are applicable to grazing actions, provided in NMFS' June 22, 1998

² Unauthorized use is any incident whereby livestock owned by a non-permittee enter onto the National Forest System lands.

³ Excess use is any incident whereby livestock owned by a permittee holding a grazing permit are found in areas or at times other than shown on the grazing permit or otherwise authorized under a bill for collection.

Opinion, “Section 7 consultation on the Effects of Continued Implementation of Land and Resource Management Plans on Endangered Species Act Listed Salmon and Steelhead in the Upper Columbia and Snake River Basins” (NMFS 1998). Specifically, these are Term and Condition 2 [Mechanism 2 (a)1 and 2(a)2 as described in Appendix 2], and Term and Condition 4 (as it applies to grazing) described in Appendix 2. Mechanisms 2(a)1 and 2(a)2 describe the development of and expectations of the Interagency Implementation Team (IIT) for livestock grazing. Term and Condition 4 reiterates the importance of the action agency exercising its existing authority under section 7(a)(1) of the ESA by carrying out programs for the conservation of endangered and threatened species.

- b. Consistently implement grazing-related standards and guidelines listed in PACFISH to achieve Riparian Management Objectives regarding bank stability, water temperature, large woody material, lower bank angle, width/depth ratio and other aquatic habitat parameters which may be effected by livestock grazing.
- c. Meet all requirements and fully implement the 2000 Grazing Implementation Monitoring Module and the piloted Effectiveness Monitoring Module.
- d. Meet implementation and effectiveness monitoring requirements developed by the Level I Team for specific pasture units.
- e. Provide an end-of-year report on grazing in allotments which contain MCR steelhead designated critical habitat or which may affect designated critical habitat downstream to NMFS by December 31 of each year. The report shall include the following: 1) Overview of the proposed action and actual management (livestock numbers, on-off dates for each pasture, grazing strategy, etc.); 2) specific MNF implementation and effectiveness monitoring data, date, and location collected (stubble height, use of woody vegetation, bank damage, unauthorized or other illegal grazing, fence construction and maintenance); 3) specific permittee monitoring data; 4) review of management and compliance successes and failures; 5) new habitat trend or steelhead population data to include updated spawning surveys; 6) compliance with each pertinent Term and Condition listed above; 7) management changes made for current year and recommendations for future years; and 8) provide copies of photos to NMFS when taken as part of documentation. Please send the completed report to:

National Marine Fisheries Service
Habitat Conservation Division, Oregon State Branch
Attn: OSB2001-0065-FEC & OSB2001-0075-FEC
525 NE Oregon Street, Suite 500
Portland, Oregon 97232-2737

3. ESSENTIAL FISH HABITAT

3.1 Background

The objective of the Essential Fish Habitat (EFH) consultation is to determine whether the proposed action may adversely affect designated EFH for relevant species, and to recommend conservation measures to avoid, minimize, or otherwise offset potential adverse effects to EFH resulting from the proposed action.

3.2 Magnuson-Stevens Fishery Conservation and Management Act

The Magnuson-Stevens Fishery Conservation and Management Act (MSA), as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267), requires the inclusion of EFH descriptions in Federal fishery management plans. In addition, the MSA requires Federal agencies to consult with NMFS on activities that may adversely affect EFH.

EFH means those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity (MSA §3). For the purpose of interpreting the definition of EFH: Waters include aquatic areas and their associated physical, chemical, and biological properties that are used by fish and may include aquatic areas historically used by fish where appropriate; substrate includes sediment, hard bottom, structures underlying the waters, and associated biological communities; necessary means the habitat required to support a sustainable fishery and the managed species' contribution to a healthy ecosystem; and "spawning, breeding, feeding, or growth to maturity" covers a species' full life cycle (50CFR600.110).

Section 305(b) of the MSA (16 U.S.C. 1855(b)) requires that:

- Federal agencies must consult with NMFS on all actions, or proposed actions, authorized, funded, or undertaken by the agency, that may adversely affect EFH;
- NMFS shall provide conservation recommendations for any Federal or State activity that may adversely affect EFH;
- Federal agencies shall within 30 days after receiving conservation recommendations from NMFS provide a detailed response in writing to NMFS regarding the conservation recommendations. The response shall include a description of measures proposed by the agency for avoiding, mitigating, or offsetting the impact of the activity on EFH. In the case of a response that is inconsistent with the conservation recommendations of NMFS, the Federal agency shall explain its reasons for not following the recommendations.

The MSA requires consultation for all actions that may adversely affect EFH, and does not distinguish between actions within EFH and actions outside EFH. Any reasonable attempt to encourage the conservation of EFH must take into account actions that occur outside EFH, such as upstream and upslope activities, that may have an adverse effect on EFH. Therefore, EFH

consultation with NMFS is required by Federal agencies undertaking, permitting or funding activities that may adversely affect EFH, regardless of its location.

3.3 Identification of EFH

The Pacific Fisheries Management Council (PFMC) has designated EFH for federally-managed fisheries within the waters of Washington, Oregon, and California. Freshwater EFH for Pacific salmon includes all those streams, lakes, ponds, wetlands, and other water bodies currently, or historically accessible to salmon in Washington, Oregon, Idaho, and California, except areas upstream of certain impassable man-made barriers (as identified by the PFMC), and longstanding, naturally-impassable barriers (i.e., natural waterfalls in existence for several hundred years)(PFMC 1999).

Detailed descriptions and identifications of EFH for salmon are found in Appendix A to Amendment 14 to the Pacific Coast Salmon Plan (PFMC 1999). Assessment of the potential adverse effects to these species' EFH from the proposed action is based on this information.

The Pacific Fisheries Management Council (PFMC) has designated EFH for three species of Pacific salmon: chinook (*Oncorhynchus tshawytscha*); coho (*O. kisutch*); and Puget Sound pink salmon (*O. gorbuscha*)(PFMC 1999). Freshwater EFH for Pacific salmon includes all those streams, lakes, ponds, wetlands, and other water bodies currently, or historically accessible to salmon in Washington, Oregon, Idaho, and California, except areas upstream of certain impassable man-made barriers (as identified by the PFMC), and longstanding, naturally-impassable barriers (i.e., natural waterfalls in existence for several hundred years). Detailed descriptions and identifications of EFH for salmon are found in Appendix A to Amendment 14 to the Pacific Coast Salmon Plan (PFMC 1999). Assessment of potential adverse effects to these species' EFH from the proposed action is based on this information.

3.4 Proposed Actions

The proposed actions are detailed above in Part 2. The "action area" for this consultation includes: 1) Dixie Creek, Bear Creek, and their tributaries within or adjacent to the MNF-administered portions of the Dixie Allotment; 2) Beech Creek, East Fork Beech Creek, Belshaw Creek, and their tributaries within or adjacent to the MNF-administered portions of the Mt. Vernon-John Day-Beech Creek Allotment; 3) Murderers Creek, Deer Creek, and their tributaries within or adjacent to the MNF-administered portions of the Murderers Creek Allotment, 4) Crawford Creek, Idaho Creek, Summit Creek, Squaw Creek, Clear Creek, Middle Fork John Day river (downstream to the forest boundary), and their tributaries within or adjacent to the MNF-administered portions of the Blue Mountain Allotment; 5) Camp Creek, Cottonwood Creek, Cougar Creek, Coxie Creek, Lick Creek, Long Creek, West Fork Lick Creek, Jonas Creek, and their tributaries within or adjacent to the NMF-administered portions of the Long Creek Allotment; and 6) Vincent Creek, Vinegar Creek, Little Boulder Creek, Windless Creek, Caribou Creek, Granite Boulder Creek, Middle Fork John Day river (downstream to the forest boundary), Ruby Creek, Butte Creek, Little Butte Creek, Ragged Creek, Placer Gulch Creek, and their

tributaries within or adjacent to the MNF-administered portions of the Upper Middle Fork Allotment. This area has been designated as EFH for chinook salmon (*Oncorhynchus tshawytscha*).

3.5 Effects of Proposed Action

Spring chinook salmon spawn, rear, or migrate in some of the larger streams (eg. Middle Fork John Day River) within or adjacent to the subject livestock grazing allotments addressed in this Opinion. Because all relevant aquatic habitat indicators are expected to be maintained or improved under current grazing regimes and monitoring strategies, NMFS believes that implementation of the livestock grazing program by the MNF on those allotments is unlikely to adversely affect chinook salmon EFH in the John Day River Basin.

3.6 Conclusion

The NMFS believes that implementation of the livestock grazing program on MNF-administered lands within the subject allotments may adversely affect designated EFH for chinook salmon in the John Day River Basin.

3.7 EFH Conservation Recommendations

Pursuant to section 305(b)(4)(A) of the Magnuson-Stevens Act, NMFS is required to provide EFH conservation recommendations for any Federal or state agency action that would adversely affect EFH. NMFS incorporates the reasonable and prudent measures and the terms and conditions contained in the ESA portion of this consultation as the conservation recommendation.

3.8 Statutory Response Requirement

The Magnuson-Stevens Act (section 305(b)) and 50 CFR 600.920(j) requires the Corps to provide a written response to NMFS' EFH conservation recommendations within 30 days of its receipt of this letter. The response must include a description of measures proposed to avoid, mitigate, or offset the adverse impacts of the activity on EFH. If the response is inconsistent with NMFS' conservation recommendations, the reasons for not implementing the Corps shall explain its reasons for not following the recommendations.

3.9 Consultation Renewal

The MNF must reinitiate EFH consultation with NMFS if either the action is substantially revised or new information becomes available that affects the basis for NMFS' EFH conservation recommendations (50 CFR 600.920).

4. LITERATURE CITED

Section 7(a)(2) of the ESA requires biological opinions to be based on "the best scientific and commercial data available." This section identifies the data used in developing this Opinion in addition to the BA and additional information requested by NMFS and provided by the MNF.

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